

JENKINS  
WILSON  
TAYLOR  
& HUNT

patent attorneys

August 8, 2006



I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on August 8, 2006.

*Andrea N. Scoggins*  
Andrea N. Scoggins  
Date of Signature: *8/8/06*

RICHARD E. JENKINS

JEFFREY L. WILSON

ARLES A. TAYLOR, JR.

GREGORY A. HUNT

BENTLEY J. OLIVE

CHRIS PERKINS, PH.D.

JAMES DALY IV, PH.D.

P. ASHLEY DARDEN

DAVID M. SIGMON

WESLEY A. SHEFFIELD

PATENT AGENT  
JAY KLINCK

TECHNICAL SPECIALIST  
AMY ODENBAUGH, PH.D.

\*LICENSED ONLY IN CA

\*\*LICENSED ONLY IN KY

\*\*\*LICENSED ONLY IN SC

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Re: U.S. National Phase Application No. 10/550,040 for  
METHODS AND SYSTEMS FOR SINGLE OR MULTI-PERIOD EDGE  
DEFINITION LITHOGRAPHY based on PCT/US04/08724  
NCSU Ref. No. 03-119; Our Ref. No. 297/171 PCT/US

Sir:

Please find enclosed in connection with the subject U.S. patent application the following documents:

1. Supplemental Information Disclosure Statement (2 pages);
2. Form PTO-1449 (4 pages) in duplicate;
3. Copies of cited references (21 references); and
4. A return-receipt postcard to be returned to us with the U.S. Patent and Trademark Office filing stamp thereon.

The Commissioner is hereby authorized to charge any fees associated with the filing of this correspondence to Deposit Account No. **50-0426**.

Respectfully submitted,

JENKINS, WILSON, TAYLOR & HUNT, P.A.

*Gregory A. Hunt*  
Gregory A. Hunt  
Registration No. 41,085

GAH/ans  
Enclosures

Customer No: 25297

tel 919.493.8000  
fax 919.419.0383

Jenkins, Wilson, Taylor & Hunt, P.A.  
JenkinsWilson.com

University Tower, Suite 1200 | 3100 Tower Boulevard | Durham, North Carolina 27707



I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on August 8, 2006.

Andrea N. Scoggins  
Date of Signature

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Johnson et al.

Group Art Unit: Unassigned

**Serial No.: 10/550,040**

Examiner: Unassigned

Filed: September 21, 2005

Docket No.: 297/171 PCT/US

Confirmation No.: 8058

For: METHODS AND SYSTEMS FOR SINGLE OR MULTI-PERIOD EDGE  
DEFINITION LITHOGRAPHY

\*\*\*\*\*

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with 37 C.F.R. 1.56, 1.97, and 1.98, applicants' undersigned attorney brings to the attention of the Patent and Trademark Office the references listed on the attached form PTO-1449. Pursuant to 37 C.F.R. § 1.98(a)(2)(i), copies of the U.S. patents and U.S. patent application publication references cited on the attached Form PTO-1449 are not attached. However, copies can be provided if necessary. This is not to be construed as a representation that a search has been made or that a reference is relevant merely because cited.

Serial No.: 10/550,040

Early passage of the subject application to issue is earnestly solicited.


Although it is believed that no fee is due, the Commissioner is hereby authorized to charge any fees associated with the filing of this Information Disclosure Statement to Deposit Account No. 50-0426.

Respectfully submitted,

JENKINS, WILSON, TAYLOR & HUNT, P.A.

Date: 8-8-06

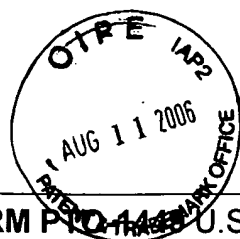
By:

  
\_\_\_\_\_  
Gregory A. Hunt  
Registration No. 41,085

GAH/ans

Enclosures

Customer No: 25297



**FORM PTO-449** U.S. Department of Commerce  
Patent and Trademark Office

List of Documents Cited by Applicant

Application No.:	10/550,040
Filing Date:	September 21, 2005
First Named Inventor:	Johnson et al.
Group:	Unassigned
Examiner:	Unassigned
Attorney Docket No.:	297/171 PCT/US

### U.S. PATENT DOCUMENTS

Examiner Initial	Cite No.	Document Number	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, where relevant passages or relevant figures appear
	1	6,756,795	06/29/2004	Hunt et al.	
	2	6,693,327	02/17/2004	Priefert et al.	
	3	2004/0029365	02/12/2004	Linthicum et al.	
	4	2004/0029365	02/12/2004	Linthicum et al.	
	5	6,686,261	02/03/2004	Gehrke et al.	
	6	2003/0230235	12/18/2003	Craven et al.	
	7	6,657,305	12/2/2003	Cohen et al.	
	8	6,645,295	11/11/2003	Koike et al.	
	9	2003/0207551	11/06/2003	Gehrke et al.	
	10	2003/0194828	10/16/2003	Zheleva et al.	
	11	6,627,974	09/30/2003	Kozaki et al.	
	12	2003/0198301	08/23/2003	Terashima et al.	
	13	6,608,327	08/19/2003	Davis et al.	
	14	6,602,763	08/05/2003	Davis et al.	
	15	6,582,986	07/24/2003	Kong et al.	
	16	2003/0139037	07/24/2003	Kobayashi et al.	
	17	2003/0111008	06/19/2003	Strittmatter et al.	
	18	2003/0070607	04/17/2003	Koike et al.	

	19	6,534,332	03/18/2003	Bourret-Courchesne	
	20	6,521,514	2/18/2003	Gehrke et al.	
	21	6,506,660	01/14/2003	Holmes et al.	
	22	2002/0179911	12/05/2002	Linthicum et al.	
	23	2002/0180306	12/05/2002	Hunt et al.	
	24	6,478,871	11/12/2002	Shealy et al.	
	25	6,462,355	10/08/2002	Linthicum et al.	
	26	6,429,463	08/06/2002	Mauk	
	27	6,423,475	07/23/2002	Lyons et al.	
	28	6,376,339	04/23/2002	Linthicum et al.	
	29	2002/0014629	02/7/2002	Shibata et al.	
	30	2001/0040292	11/15/2001	Hahn et al.	
	31	2001/0041427	11/15/2001	Gehrke et al.	
	32	2001/0039102	11/08/2001	Zheleva et al.	
	33	6,265,298	07/24/2001	Chen et al.	
	34	2001/0008299	07/19/2001	Linthicum et al.	
	35	6,255,198	07/03/2001	Linthicum et al.	
	36	6,184,144	02/06/2001	Lo	
	37	6,177,688	01/23/2001	Linthicum et al.	
	38	6,160,833	12/12/2000	Floyd et al.	
	39	6,153,010	11/28/2000	Kiyoku et al.	
	40	6,111,276	08/29/2000	Mauk	
	41	6,090,685	07/18/2000	Gonzales et al.	
	42	6,051,849	04/18/2000	Davis et al.	
	43	5,962,863	10/05/1999	Russell et al.	
	44	5,865,888	02/02/1999	Min et al.	

	45	4,803,181	02/07/1989	Buchmann et al.	
	46	4,760,036	07/26/1988	Schubert	
	47	4,758,528	07/19/1988	Goth et al.	
	48	4,354,896	10/19/1982	Hunter et al.	

## FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number (country code, no., kind code (if known))	Publication Date	Name of Patentee or Applicant	Pages, columns, lines where relevant passages appear	T

## OTHER DOCUMENTS

Examiner Initials	Cite No.	Include Author (in CAPITAL LETTERS), Title, Journal, Date, Pertinent Pages, Etc.	T
	49	International Preliminary Examination Report for PCT/US04/08725 dated February 9, 2006.	
	50	International Preliminary Examination Report for PCT/US04/08725 dated November 25, 2005	
	51	BERGER ET AL., "Liquid Phase Epitaxial Growth of Silicon on Porous Silicon for Photovoltaic Applications", <i>Cryst. Res. Technol.</i> , Vol. 36, pp. 1005-1010 (2001)	
	52	Z.R. ZYTKIEWICZ, "Epitaxial Lateral Overgrowth of GaAs: Principle and Growth Mechanism", <i>Cryst. Res. Technol.</i> , Vol, 34, pp. 573-582 (1999)	
	53	<a href="http://semiconductorglossary.com/default/asp?searchterm=ELO">http://semiconductorglossary.com/default/asp?searchterm=ELO</a> ; (publication date unknown)	
	54	BASHIR ET AL., "Characterization of Sidewall Defects in Selective Epitaxial Growth of Silicon", <i>J. Vac. Sci. Technol.</i> , pp. 923-927 (May/June 1995)	
	55	JU ET AL., "Epitaxial Lateral Overgrowth of Gallium Nitride on Silicon Substrate", Department of Chemical Engineering and Condensed Matter and Surface Science Program, Ohio University , pp. 1-9, (Publication Date Unknown)	
	56	TAKENAKA ET AL., "0.15 $\mu$ m T-shaped Gate Fabrication for GaAs MODFET Using Phase Shift Lithography", <i>IEEE Transactions on Electron Devices</i> , Vol. 43, No. 2 (February 1996)	
	57	STICKEL ET AL., "Edge Contrast: A New Definition for Comparative Lithography Tool Characterization", <i>J. Vac. Sci. Techonol.</i> , pp.1007-1010 (Oct-Dec. 1983)	

	58	BARATTE ET AL., "Enhance/Deplete GaAs Sisfets", IEEE pp.121-135 (1987)	
	59	CHOI ET AL., "A Spacer Patterning Technology for Nanoscale CMOS", <i>IEEE Transactions on Electron Devices</i> , Vol. 49, No. 3 (March 2002)	
	60	CHOI ET AL., "Sub-20nm CMOS FinFET Technologies", Department of Electrical Engineering and Computer Sciences, University of California, pp. 19.1.1-19.1.4 (Publication Date Unknown)	
	61	CHOI ET AL., "Nanoscale CMOS Spacer FinFET for the Terabit Era", <i>IEEE Electron Device Letters</i> , Vol. 23, No. 1 (January 2002)	
	62	CHOI ET AL., "Spacer FinFET: Nano-scale CMOS Technology for the Terabit Era", Department of Electrical Engineering and Computer Science, University of California, pp. 543-546 (Publication date unknown)	
	63	ZHANG ET AL., "A Lithography Independent Gate Definition Technology for Fabricating Sub-100nm Devices", Institute of Microelectronics, Peking University, pp. 81-84 (2001)	
	64	STOLK ET AL., "Making 50 nm Transistors with 248 nm Lithography", <i>2000 Symposium on VLSI Technology Digest Technical Papers</i> , pp. 52-53 (2000)	
	65	NASRULLAH ET AL., "An Edge-Defined Nano-Lithography Technique Suitable for Low Thermal Budge Process and 3-D Stackable Devices", <i>IEEE</i> , pp. 502-505 (2003)	
	66	CHUNG ET AL., "Deep-Submicrometer MOS Device Fabrication Using a Photoresist-Ashing Technique", <i>IEEE Electron Device Letters</i> , Vol. 9, No. 4 (April 1988)	
	67	STRIFLER ET AL., "An Edge-Defined Technique for Fabricating Submicron Metal-Semiconductor Field Effect Transistor Gates", <i>J. Vac. Sci. Technol.</i> , pp. 1297-1299 (Nov/Dec 1990)	
	68	HOSACK ET AL., "Submicron Patterning of Surfaces", <i>IEEE Journal of Solid-State Circuits</i> , Vol. SC-12, No. 4 (August 1997)	
	69	ZHELEVA ET AL., "Pendeo-Epitaxy – A New Approach for Lateral Growth of Gallium Nitride Structures", pp. 81-84 (Publication date unknown)	

EXAMINER \_\_\_\_\_ DATE CONSIDERED \_\_\_\_\_

\*Examiner Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.